Decentralization of Steam System Naval Station Great Lakes

NAVFAC
Naval Facilities Engineering Command
MIDWEST

April 19, 2011

Overview

- **The purpose of the Industry Forum is to exchange information among all interested parties to improve the understanding of Government requirements and industry capabilities, thereby allowing potential offerors to judge whether or how they can satisfy the Government's requirements.**

- **Technical Requirements**
  - **Project Overview**
  - **Communication/Energy**
  - **Demolition Bldg 11 and associated components**
  - **Environmental**
- **Acquisition/Source Selection Process**
- **Small Business Information**
- **Any remarks and explanations shall NOT qualify the terms of the future solicitation.**
- **Please sign-in.**

Personnel

- **Andrea Morris, Contract Specialist**
- **Aaron Schroeder P.E., Project Manager**
- **Terry Aide P.E., Utilities and Energy Management Product Line Coordinator**
- **Shannon Bever P.E., IPT Environmental Business Line Leader**
- **Janis Kaiser, Deputy for Small Business**

Technical

Aaron Schroeder, P.E.

Project Manager

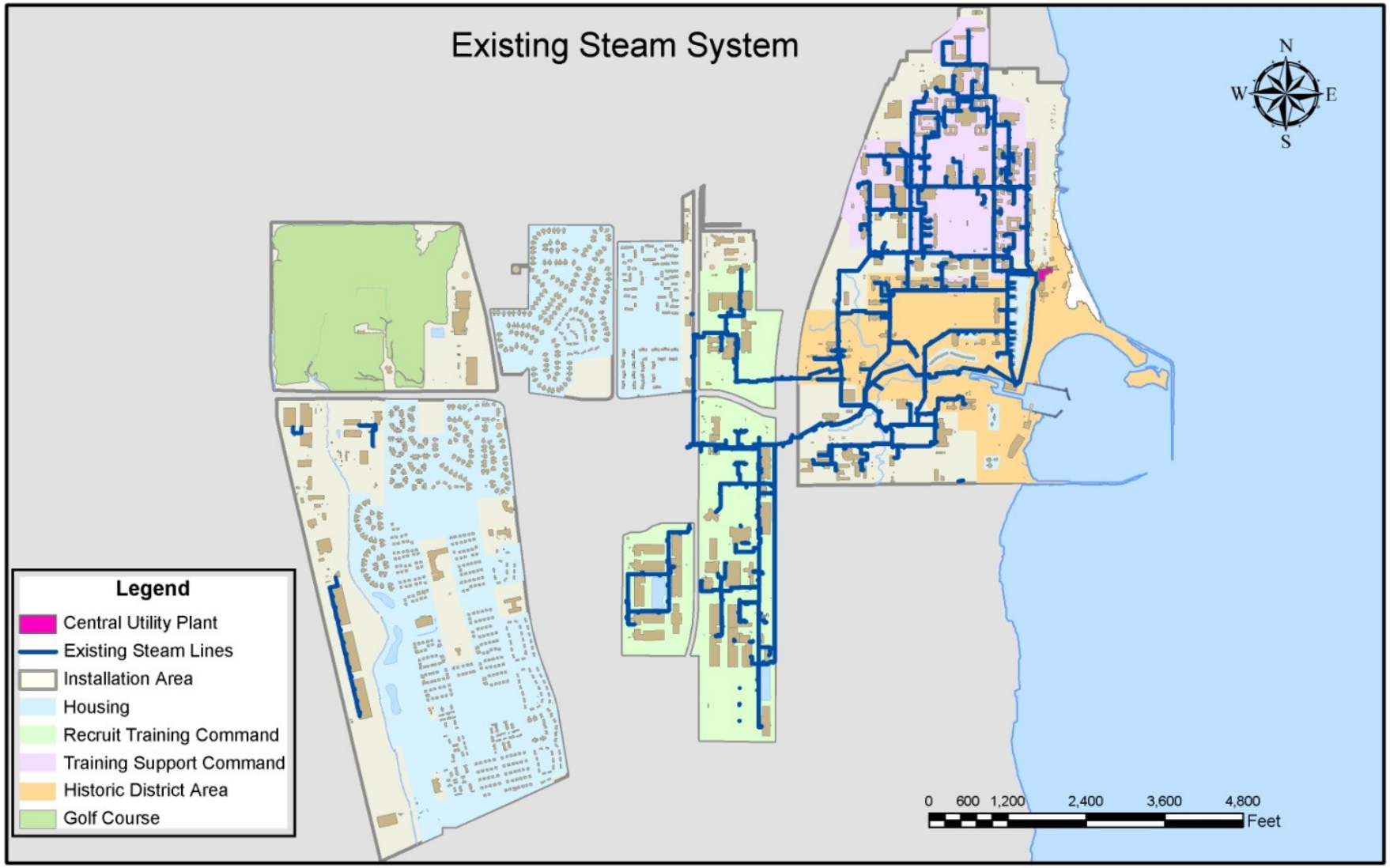
Naval Station Great Lakes Overview

- **Naval Station Great Lakes, IL**
  - **Dates back to 1905; 1st group of recruits 1 July 1911**
  - **Encompasses over 1800 acres**
  - **Houses major training functions:**
    - **Naval Service Training Command (NSTC)**
    - **Recruit Training Command (RTC)**
      - **Navy's only basic training facility**
      - **Camp Porter, Camp Moffet**
    - **Training Support Center (TSC)**
    - **Hospital Corps School**

Power/Steam Generation Overview

- Existing central cogeneration plant, B-11, provides on-base steam and electricity generation via natural gas
- Steam generated from the plant provides building heat and domestic hot water, and limited process requirements for ~120 buildings throughout NAVSTA
- Steam transmitted through a combination of line configurations:
  - Above ground
  - Chase
  - Tunnel
  - Direct bury
- ~34 miles of existing steam and condensate transmission lines servicing Main Side, Camp Porter, and Camp Moffett
- ~270 steam pits

Power/Steam Generation Overview



Existing Conditions

- **Central plant boilers**
  - **Oversized for current demand due to…**
    - **Gradual recapitalization and reduction of buildings at NAVSTA**
    - **Some loads removed from B-11 and reallocated to adjacent plants**
  - **Dated technology**
    - **Significant near-term change/investment requirements**
    - **Efficiency**
- **Steam distribution system**
  - **Significant thermal energy losses**
  - **High maintenance expense**

Alternative

- **Full decentralization was found to be the most economical long-term approach:**
  - **Save money annually / return on investment**
  - **Reduced energy consumption**
  - **Reduced maintenance costs**
  - **Reduced natural gas usage**
  - **Update technology**

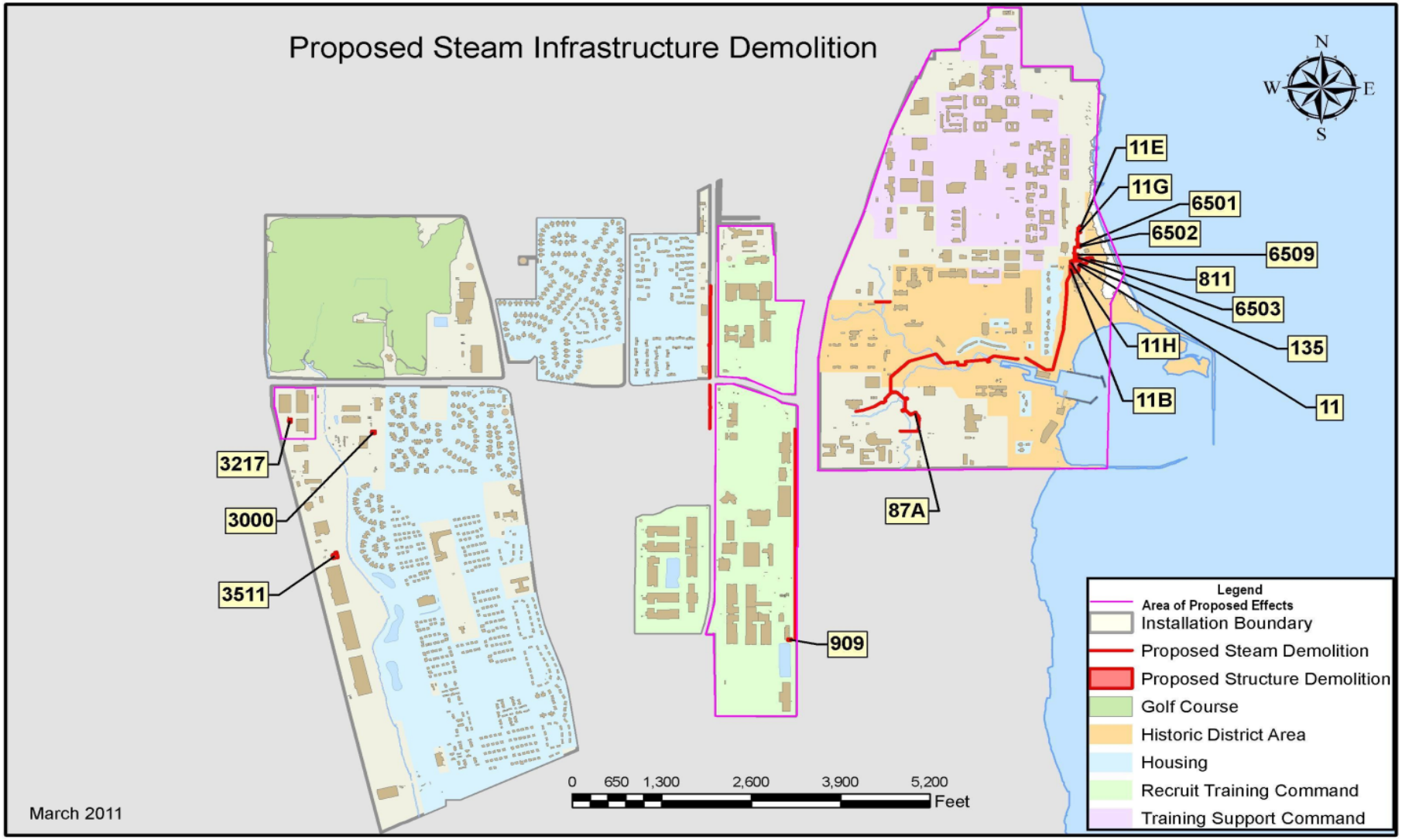
P-816: Steam Decentralization Project

- **FY12 Military Construction (MILCON) Project Scope:**
  - **Design-build project delivery**
  - **Design and provide individual heating units in the ~120 buildings currently served by the central plant**
    - **Identify buildings' heating, domestic hot water, and process steam requirements**
    - **Design and provide stand-alone heating systems for each facility**
      - **High-efficiency**
      - **Low lifecycle costs**
      - **Standardize throughout the project to reduce future government operation and maintenance requirements**
    - **Design and provide interior renovations to expand existing mechanical rooms**
      - **Provide architectural, mechanical, structural, fire protection, electrical, communications engineering services**
      - **In limited cases, new exterior footprint will be required to accommodate new mechanicals**
    - **Expand existing building automation system to monitor and control the new heating systems. Provide an integrated industrial control system network that will use the PSNeT communications network provided by others.**
      - **Identify suitability of existing controls for reuse; integrate new controls with existing**
      - **Provide central control capability for the building automation systems**

P-816: Steam Decentralization Project

- **FY12 Military Construction (MILCON) Project Scope (con't):**
  - **Provide, via local utility provider, expanded natural gas delivery infrastructure**
  - **Phase down central plant as new individual building units come online**
  - **Phase, isolate, abate and demolish above-ground steam/condensate distribution system (~7 miles)**
  - **Abate tunneled steam/condensate distribution system (~2 miles)**
  - **Demolish majority of steam pits (~240)**
  - **Phase, abate and demolish central plant (B-11) and adjacent structures**
  - **Provide systems commissioning**
  - **Train government workforce, OMSI**

P-816: Steam Decentralization Project



Execution Timeline

- Phase I (FAR 36.3) Issued September 2011
  - "Qualification" Phase
- Phase II Issued December 2011
  - Offerors that proceed from Phase I receive solicitation
- Construction Award May 2012
- New Construction (heating system/new "boiler" installation and building automation system) targeted for completion October 2015
  - Design
  - Permitting
  - Construction
  - Abatement
  - Commissioning
- Demolition targeted for completion November 2016
  - Bldg 11 and Associated Infrastructure Demolition/Abatement
  - Aboveground Steam Distribution Abatement/Demolition
  - Abatement of Tunnel Distribution

Controls/Demolition

Terry Aide P.E.
Utilities and Energy Management
Product Line Coordinator

Centralized Energy Monitoring/Direct Digital Controls

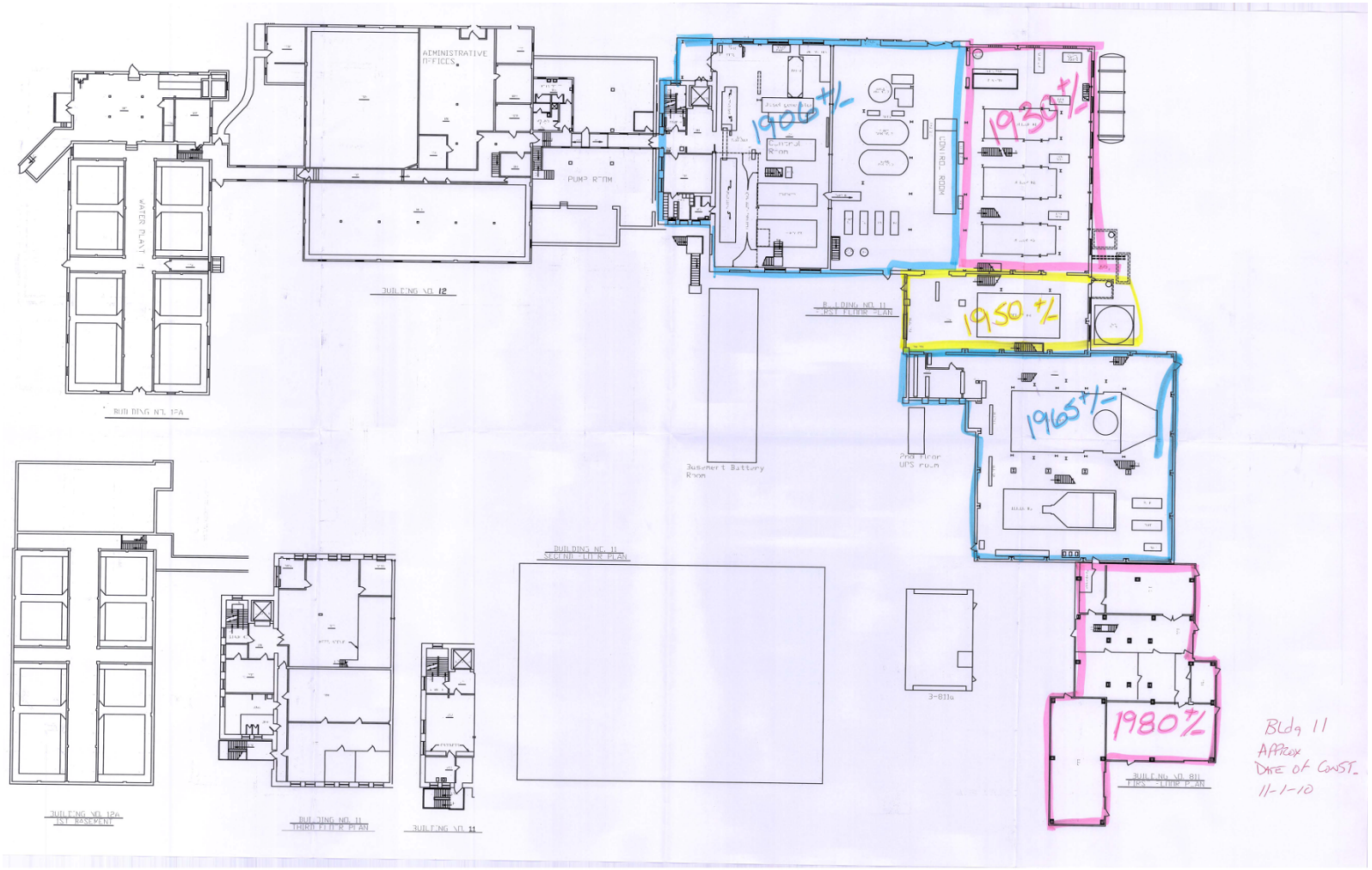
- **Naval Station Great Lakes will have a wired/wireless network installed on base**
- **Use this existing communication backbone to:**
  - **Network existing non-networked building level direct digital control (DDC) systems and new DDC systems for new heating equipment**
    - **Replace antiquated DDC panels**
    - **Install additional network infrastructure**
- **Install energy monitoring/DDC system**
  - **Develop Platform Information Technology (PIT) Information Assurance (IA) documentation**
  - **Install servers, management software, workstations**
  - **Meet IA controls and administrative security requirements**
  - **Provide training on new system/software**

Demolition - Building 11 Vicinity

- Demolition includes the Steam/Power Plant (Building 11) at Naval Station Great Lakes
- Building 11 is a portion of a combined facility with the Water Treatment Plant, Building 12
- The combined facility has shared infrastructure and numerous interconnected building/utility systems including
  - Electricity
  - Phone/Data
  - Fire Alarm
  - Emergency Power
  - Access to Basement (elevator)
  - Supervisory Control and Data Acquisition (SCADA)
- Relocation of office/shop space
- Demolition at Steam/Power Plant (Building 11) Complex includes:
  - Building 11 Power Plant (51,042 sf, 3 stories)
  - Building 811 Power Plant Extension (10,000 sf, 2 stories)
  - Fuel Oil Tank (400,000 gallon capacity)
  - Makeup Water Tank (150,000 gallon capacity)
  - Ammonia Tank (10,400 gallon capacity)
  - Fuel Oil Pump House (465 sf, one story)
  - Gas Compressor House (936 sf, one story)
  - Brick Stack (182 feet in height)
  - Misc. support structures

Building 11 Steam/Power Plant

Building 11/12 Layout



Building 11 Steam/Power Plant

View looking west

Building 11 Steam/Power Plant

View looking north

Building 11 Steam/Power Plant

View looking north on west side of Plant

Building 11 Steam/Power Plant

View looking south on north side of Plant
Also shows 150,000 gallon water tank

Other Demolition

- Demolition of Other Structures (not in vicinity of Building 11)
  - Above-ground steam/condensate lines and supports (some in sensitive ravine area with difficult ac
  - Utility Trestle 737 (spans ravine area
  - About 240 steam pits
  - Boiler Plant 3511 (6471 sf, 2 stories)
  - Boiler Plant 3217 (1700 sf, one story
  - Boiler Plant 3000 (1725 sf, one story
  - Building 87A, Steam Reducing Static (610 sf, one story concrete structure in ravine/hillside area)
  - Building 909, Steam Reducing Station (1,077 sf, one story with basement of nearly 5,000 sf)
  - Misc. support structures

Other Demolition

Trestle 737 – 104 feet in length spanning 40 foot ravine

Environmental

Shannon Bever P.E.

IPT Environmental Business Line Leader

Environmental Services Required

- **Asbestos, lead-based paint, and hazardous materials abatement in ~120 buildings (only as required for conversion)**
- **Aboveground storage tank closure, assessment, and removal**
- **Building 11 complex environmental mitigation and demolition oversight**
- **Associated Permitting**

Asbestos, Lead, and Hazardous Materials Surveys

- NAVFAC will provide asbestos, lead, and hazmat surveys of mechanical spaces in ~120 buildings and the steam distribution systems.

- Additional surveys may be required based upon proposed technical approach of the Design/Build contractor.

AST Requirements

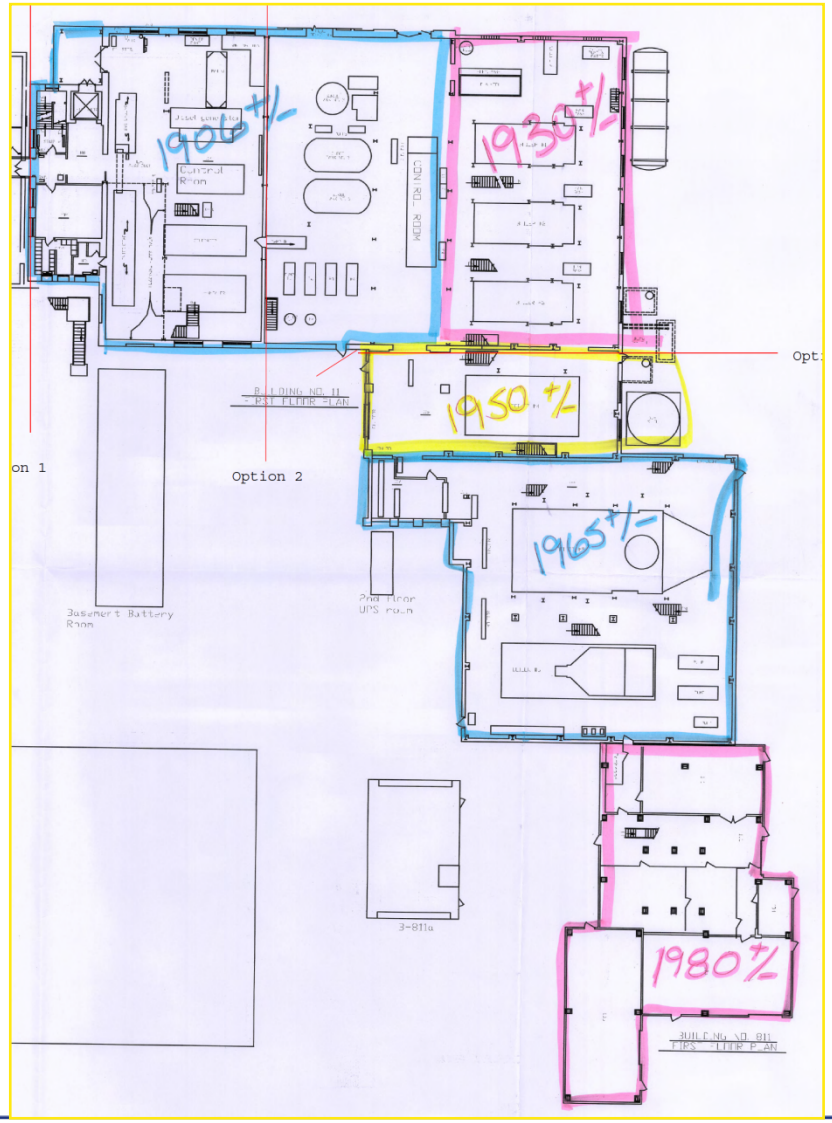
- **Aboveground storage tank (AST) closure, demolition, removal and assessment, including:**
  - **Fuel Oil Tank (400,000 gallon capacity)**
  - **Makeup Water Tank (150,000 gallon capacity)**
  - **Ammonia Tank (10,400 gallon capacity)**
- **Includes evacuation and removal of all distribution piping to ASTs**

Permitting

- Air Permits
  - Compliance with new Title V Permit
  - Collect data and transmit to central location
- National Emissions Standards for Hazardous Air Pollutants (NESHAP) Permits
  - At minimum, one per ACM Contractor
- Construction Permits
  - For all units installed as part of project
- Other permits as required

Demolition of Building 11 Steam/Power Plant

- **Building 11 demolition and management of all associated environmental issues**
- **Complete demolition or selective demolition has yet to be determined**



Other issues/requirements

- **Mitigation measures may be required resulting from consultations with resource agencies.**

- **Historic Building concerns will need to be addressed with respect to modification (e.g. piping, vents, meters, flues, brick color).**

Technical/Summary

Aaron Schroeder, P.E.
Project Manager

Challenges to the Contractor

- Massive management effort required
  - Must manage multiple vendors, subs, utilities onsite and working simultaneously on several buildings/locations concurrently
  - No downtime between phases/trades; coordinate multiple trades working in a building at one time
  - Massive multi-discipline design effort under compressed timeline
  - Provide centralized construction phasing, scheduling
  - Ensure compliance for all subs with base access requirements, government contracting rules, Navy safety requirements (EM385)
  - Material staging (massive footprint)
  - Material/equipment procurement / production, lead times, while still providing uniformity of product for ease of future maintainability
  - Provide on-base traffic plan/control for multiple concurrent work areas

Challenges to the Contractor

- Facilities (central plant and served buildings) remain in-use and occupied during construction (work around customers, coordinate outages
  - Training pipeline at Great Lakes is critical path to Navy Fleet
  - Provide decentralized cost savings at earliest possible opportunity
  - Continue construction throughout winter while providing heat
  - Operate existing system during construction of new; constrained work areas
- Nonstandardization of existing building infrastructure—each building will require a varied and unique solution
- Provide uniformity of equipment/replacement parts for ease of maintainability
- Provide networked integrated final product
- Achieve overall energy reduction goals

Challenges to the Contractor

- Extremely aggressive timeline
  - 3 ½ yr design-build-construct window
- Provide Construction / Emissions Permitting (IL EPA), EPA Title V CAAPP mod required
- Provide State Historic Preservation Office architectural review and approval
- Provide PSNet Information Assurance Approval of proposed controls system
- Provide Government/IA accredited/certified employees to work on PSNet and Government building automation systems/control systems (background checks, etc.)
- Work will impact existing HVAC systems; solutions provided by Contractors must integrate with existing systems (e.g., steam reheat convert to hot water)
- Access for demolition of above-ground steam lines on steep wooded slopes; above creeks; environmental protection requirements

Acquisition

Andrea L. Morris
Contract Specialist

Acquisition

- Two-Phase Design-Build (FAR 36.3) Construction Contract
- Estimated Value is greater than $80,000,000
- NAICS Code 238220, Plumbing, Heating, and Air-Conditioning Contractors
- Size standard is $14.0 million
- Davis Bacon Act Wages will apply
- FAR Clause 52.219-14 Limitations on Subcontracting (25%)
- Must be registered in CCR and ORCA
- Bid Bond will be required (20% or $3,000,000)
- Payment and Performance Bonds (100%) will be required
- Project Labor Agreement required (FAR 22.5)

Technical Evaluation Factors

- Phase I, Factor 1 – Experience
- Phase I, Factor 2 – Past Performance
- Phase I, Factor 3 - Safety

- Phase II, Factor 4 – Technical Solution
- Phase II, Factor 5 – Sustainable Design
- Phase II, Factor 6 – Small Business Utilization (if procure large/unrestricted)
  - Subfactor 6a – Past Performance in Utilization of Small Business Concerns
  - Subfactor 6B – Small Business Participation

Small Business

Deputy for Small Business
NAVFAC Midwest
Ms. Janis Kaiser
(847)688-2600 x 108
Janis.kaiser@navy.mil

Small Business / Socio-Economic Programs

- **NAVFAC Midwest will continue to be an advocate for small business as Prime Contractors and as Subcontractors.**
- **There is no order of priority among small businesses in the 8(a) Business Development Program, the HUBZone Program or the SDVOSB Program.**
- ***Set-asides* are used when there are *two or more qualified firms* who have the technical capability or productive capacity to provide the product or service at a *reasonable price.***
  - **Small Business**
  - **Small Disadvantaged**
  - **Historically Under Utilized Business Zone***
  - **Service-disabled Veteran-owned**
  - **8(a)* Business Development**
  - **Women Owned Business**

U.S. Small Business Administration
SBA
Your Small Business Resource

***Some programs require formal certification, others are self-certified.**

Small Business Determination

- **Size is determined either by the number of employees or the average 3-year sales.**

- **SBA defines a small business concern as one that is independently owned and operated, is organized for profit, and is not dominant in its field according to its NAICS code.**

Manufacturing	**500 to 1,500 Employees**
Wholesale	**100 to 500 Employees**
General Construction	**$33.5 Million**
Specialty Trade Construction	**$14 Million**
Env. Remediation Services	**500 Employees**

*** See 13 CFR Part 121 for Size Regulations or the SBA web**

When a Small Business is the Prime

- Limitation on Subcontracting Rule
- Team versus Joint Venture
- Affiliation
- Ostensible Subcontractor Rule

Limitations on Subcontracting

All prime Small Business and 8(a) contractor awardees - FAR 52.219-14, HUBZone contractors – FAR 52.219-3 & SDVOSB contractors - FAR 52.219-27

Services (except construction)	Supplies
50% of personnel costs	50% of cost of manufacturing, excluding materials
General Construction	**Special Trade Construction**
15% of cost of contract with own employees, excluding materials	25% of cost of contract with own employees, excluding materials

Team vs. Joint Venture

Successful teaming for a specific program occurs early.

Should I pursue a…
a)Joint Venture
b)Teaming
c)Partnering

Tips:
Research business arrangement now
Get it in writing
Gov’t does not have privity with subs

Advantages of Small Business Teaming

- **The JV or team is able to compete for larger more technically complex contracts by combining the capabilities and assets of various team members.**

- **Relaxed affiliation rules for SB joint ventures and on procurements that meet certain requirements**

Affiliation

Normal Rule of Affiliation
13 CFR 121.103(h)(2)

- The members of a joint venture or team are considered to be affiliated for size purposes.

- The size of each team member contributes to the total size of the joint venture or team.

- The joint venture or team is small only if the combined annual receipts or employees of all the firms in the JV meet the size standard for the procurement

Relaxed Affiliation Rules

Exception to the normal rules of affiliation for joint ventures and teams on procurements that meet certain requirements:

- **A bundled procurement of any dollar value; or**
- **For a procurement having a receipts based size standard, the dollar value of the procurement exceeds ½ the size standard; or**
- **For a procurements having an employee based size standard, the dollar value of the procurement exceeds $10 million.**

*** For these procurements, the JV is considered small so long as each member is small under the size standard assigned to the procurement. Ref: 13 CFR 121.103(h)(3)**

Ostensible Subcontractor Rule

- **An ostensible subcontractor which performs or is to perform primary or vital requirements of a contract may have such a controlling role that it must be considered a joint venturer affiliated on the contract with the prime contractor. In determining whether subcontracting rises to the level of affiliation as a joint venture, SBA considers whether the prime contractor has unusual reliance on the subcontractor.**
- **Sorting out just what is affiliation and what is an ostensible subcontractor is a complex task. Refer to:**
  - **13 C.F.R. 121.103(h)(4)(2005)**
  - **SBA Regional Office**

Code of Federal Regulations

Code of Federal Regulations (CFR) on-line:

http://ecfr.gpoaccess.gov

Size regulations: 13 CFR Part 121

8(a) & SDB regulations: 13 CFR Part 124

Government Contracting Programs:
13 CFR Part 125.6

SDVOSB Program: 13 CFR Part 125.15

HUBZone Program: 13 CFR Part 126

WOSB Program: 13 CFR Part 127

When a Large Business is the Prime

- **A Subcontracting Plan is required from a large business concern if solicitation is issued unrestricted and**
  - **is expected to exceed $1.5 Million (for construction), and**
  - **has subcontracting possibilities.**

- **Any contractor or subcontractor failing to comply in good faith with the requirements of the subcontracting plan is in material breach of the contract. Liquidated damages are in the dollar amount not subcontracted.**

- **Subcontracting plans which specifically identify Small Business Concerns, prime contractor shall notify the administrative contracting officer, in writing, of any substitutions of firms that are not Small Business firms**

- **Large primes and their large subcontractors submit reports on subcontracting compliance using the Electronic Subcontracting Reporting System (eSRS) at http://www.esrs.gov.**

Seek Assistance

Procurement Technical Assistance Centers:
http://www.aptac-us.org/new

Search by your state online

U.S. Small Business Administration:
www.sba.gov

Illinois District Office

Mr. Jerry Smith
Assistant District Director
for Business Development
500 W. Madison Street
Suite 1150
Chicago, IL 60661
Phone: (312)886-0833

Office Of Government Contracting

Mr. David Gordon
Size Program Manager
500 W. Madison Street
Suite 1150
Chicago, IL 60661
Phone: (312)353-7674

NAVFAC Small Business Program Webpage

- SB Contacts
- SB Programs
- SB Achievements
- Opportunities
  - MILCON Forecast List
  - NAVFAC Contracts with Large Businesses (for subcontracting opportunities)
- SB Directories
  - SDVOSB Directory for Contracting Officer/Prime Contractor Market Research process
- Contracting Guidelines
- Events Calendar

https://smallbusiness.navfac.navy.mil

Check it Out !

Good Information for YOU

Primary Point of Contact

- **Andrea Morris**
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  - **Email – andrea.l.morris@navy.mil**

- **Sources Sought: N40083-11-R-0016 due May 16, 2011**
- **Requests for Information must be in writing.**

Questions?